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Revision of the Commission's Rules)
To Ensure Compatibility with)
Enhanced 911 Emergency)
Calling Systems)

CC Docket No. 94-102

REQUEST FOR LIMITED PHASE II E911 WAIVER

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To: Wireless Telecommunications Bureau

REQUEST FOR LIMITED WAIVER

Alabama Wireless, Inc. ("AWI"), pursuant to Section 20.18(i) of the Commission's Rules, hereby requests a limited waiver of the deadlines for implementation of Phase II E911. AWI has previously stated to this Commission, in its E911 Report filed last November, that AWI will be implementing a handset-based technology, as network-based technologies simply are not feasible for rural geographic areas such as the one served by AWI. (AWI operates a cellular telephone system on frequency block A serving FCC Market No. 307A, Alabama RSA No. 1, a rural area in north central Alabama, outside the metro areas of Gadsden, Florence, and Huntsville, Alabama, which it borders.) AWI remains committed to the handset-based approach, but requires a very short extension of the current deadlines to assure a smooth and successful implementation.

Specifically, AWI requests: 1) an extension of its deadline for upgrading its switches and cell sites from October 1, 2001 until April 1, 2002, and a concomitant extension of the date it begins selling Phase II-compliant handsets until April 1, 2002;

and 2) new milestones for Phase II-compliant handset activations as follows: 25% of new activations by July 31, 2002, 50% of new activations by March 31, 2003, 100% of new activations by December 31, 2003, and 95% of embedded base by December 31, 2005. As set forth below, there is good cause for grant of this very limited waiver.

Although the handset-based solution will provide public safety agencies with accurate information as to a 911 caller's location and thus meets the goals of the Commission's E911 rules, for reasons beyond AWI's control, it cannot be deployed on the required schedule. Approval of AWI's comprehensive plan will serve the public interest by permitting AWI to provide its customers with what it believes is the most accurate location technology as quickly as possible.

INTRODUCTION AND SUMMARY

Background of AWI and Its System

AWI obtained its construction authorization for a cellular system to serve Alabama RSA No. 1-Franklin, FCC CMA No. 307A, in 1997. AWI timely commenced commercial operation in November, 1998, and has been serving thousands of its own subscribers as well as tens of thousands of incoming roamers since that date. AWI constructed its system using Lucent infrastructure equipment, and employs both analog and CDMA-digital technology in its system. AWI is much too small to purchase handsets from handset manufacturers; AWI simply cannot buy in sufficient quantity to do so. Therefore, AWI acquires its handsets from independent wholesalers/distributors who in turn purchase from the handset manufacturers. Thus, AWI is generally last in line to receive new handset products when they are brought to market by a manufacturer.

AWI's rural service area is adjacent to four MSA metropolitan area markets, and in every one of those MSA markets the co-channel cellular licensee is Verizon Wireless. These adjacent Verizon Wireless markets virtually surround AWI's rural service area. AWI serves thousands of incoming Verizon Wireless subscribers from these adjacent MSA markets.

AWI's Commitment to Safety

AWI is fully committed to providing Enhanced 911 location capability to meet the needs of its customers and of incoming roamers. That commitment is not new. AWI timely and successfully deployed Phase I E911 service throughout its service area. But wireless location capability, like any new technology, requires considerable time and effort by service providers, vendors and PSAPs to ensure that it will work in real-world situations. Deployment of this capability has proven particularly complex because so many parts of the wireless communications system – handset, cell site, network signaling and switching functions, location equipment and software – must all interface without losing any of the voice or data communications being transmitted. At the time the Commission imposed its Phase II requirements, no technology existed that met the strict accuracy requirements and that had been successfully tested in actual end-to-end wireless systems. Only now are technically feasible, complete solutions starting to become available, but this is not in time for major nationwide carriers, let alone single-market rural carriers such as AWI, to meet the deadlines in the rules.

The Need to Synchronize with the Adjacent Carrier

Although AWI desires to move as aggressively as possible, it will be unable to meet the rules' deadlines for Phase II compliance because the Phase II-capable handsets

will not be available to AWI in sufficient quantity in time. Moreover, as noted above, AWI's service area is a "donut hole," surrounded by a donut consisting of metropolitan area cellular systems operated by Verizon Wireless. A large percentage of AWI's traffic consists of incoming Verizon Wireless subscribers. Accordingly, it makes sense for AWI to synchronize its Phase II implementation with the Verizon Wireless Phase II implementation in the surrounding metro areas. AWI's implementation schedule proposed herein does just that.

AWI therefore seeks a limited waiver from Section 20.18(g) of the Commission's rules to deploy the E911 Phase II technology on a timeline that calls for upgrades from its network infrastructure vendor, Lucent, to be installed and in place by the time that AWI can feasibly acquire a supply of compliant handsets, and calls for Phase II E911 launch roughly in tandem with the surrounding metro areas.

Deployment Independent of Timing of PSAP Requests

AWI intends to deploy E911 Phase II according to its requested schedule across its entire service area, irrespective of receiving a PSAP's request. In this regard, AWI is committing to deployment of Phase II technology in its network in advance of several PSAPs' own capability to do so. In this way, customers who purchase Phase II-compliant handsets in those areas will be ready to be served as soon as the PSAP upgrades its own emergency communications capabilities to use the location information that AWI will be ready to transmit. This approach is not only desirable, but is far more efficient and will promote the wide geographic availability of Phase II service better than the fragmented approach of the rule, which ties compliance deadlines to the date six months after an individual Phase II-capable PSAP sends a letter to the carrier, resulting in

nearly as many different compliance dates as the number of PSAP requests received. The schedule also mitigates the problem of uncertainty over which PSAPs' requests are valid, because the network-assisted portion of the solution will be completed even without valid requests. Because this approach best serves the underlying purposes of Section 20.18, a waiver approving it is justified.

IMPLEMENTATION DETAILS AND SCHEDULE

Handset Component

AWI understands that one vendor, Samsung, currently has a CDMA handset available for testing this September that should be available for sale to its major national carrier/customers in December, and to independent wholesalers/distributors in the first quarter of next year.¹ Three other vendors are planning to make new handsets available for testing, beginning this October, with national carrier availability during the first six months of 2002, and general availability at varying times thereafter. Below is a chart that shows tentative testing periods and predicted availability periods for Phase II-compliant handsets that could be sold by AWI:

¹ At this time, QUALCOMM is the primary chipset supplier for CDMA Phase II-compliant handsets. QUALCOMM 3300 and 5100 chipsets support E911 Phase II and are commercially available for manufacturers to begin mass production. Other chipsets may become available in the future but are not commercially available at this time.

| Vendor | Test Schedule | Initial Availability | 2nd Tier Availability |
|---------------|----------------------------|-----------------------------|---|
| Samsung | September 2001 | December 2001 | March 2002 |
| Audiovox | October-December 2001 | January-March 2002 | April 2002 |
| Nokia | December 2001-January 2002 | March-April 2002 | May 2002 |
| Motorola | April 2002 | July 2002 | August 2002 |
| LG | Third Quarter 2002 | Fourth Quarter 2002 | Fourth Quarter 2002 |

Based on these vendor schedules, AWI plans to achieve the following Phase II-compliant handset penetration benchmarks:

- i) begin sales by April 1, 2002
- ii) 25% of new activations by July 31, 2002 (same as Verizon Wireless)
- iii) 50% of new activations by March 31, 2003 (same as Verizon Wireless)
- iv) 100% of new activations by December 31, 2003 (same as Verizon Wireless)
- v) 95% of embedded base by December 31, 2005 (same as Verizon Wireless)

Network Component

Although Lucent intends to have the necessary switch upgrade available in October, 2001, Lucent's initial focus, rightly, will be upon serving its national customers, with smaller, single-market customers such as AWI being attended to after. The Verizon Wireless Updated E911 Status Report and Limited Waiver Request filed July 25, 2001 ("Verizon Wireless Waiver Request"), at p.15, states that Lucent's national deployment is estimated at April 1, 2002. Accordingly, AWI requests that it have until April 1, 2002 to complete installation of the Lucent upgrade into AWI's Lucent infrastructure.

PSAP Interfaces

AWI will coordinate with PSAPs in order to ensure implementation of the necessary upgrades for Phase II. Phase I capability will be installed to enable the PSAP to receive latitude and longitude information provided with Phase II. Thus, PSAPs requesting Phase II that have not upgraded for Phase I must account for the additional time, typically three to four months, required for Phase I and II upgrades simultaneously.

Location of Non-Compatible Handsets

To accommodate legacy CDMA handsets that are incompatible with AWI's solution, AWI plans eventually, and subject to successful testing results in the surrounding metro area markets, to deploy the handset network software technology described in the Verizon Wireless Waiver Request, *supra*, which will work with existing legacy CDMA handsets without alteration. For non-CDMA handsets that are incompatible with AWI's particular solution, location proximity information will be provided in conformance with the Commission's Phase I rules.²

REQUEST FOR LIMITED WAIVER

Under Section 20.18 of the Commission's rules, CMRS carriers must deploy a technology for transmitting Phase II location information (*i.e.*, latitude/longitude) in accordance with accuracy requirements for 911 calls as early as October 1, 2001.³ Carriers that select handset-based location technologies must begin selling and activating location-capable handsets no later than October 1, 2001, and must thereafter meet certain

² See 47 C.F.R. § 20.18(g)(3).

³ 47 C.F.R. §§ 20.18(e)-(h).

percentage-of-activation milestones.⁴ In addition, those carriers must, within six months of a PSAP request or by October 1, 2001, whichever is later, make any necessary network modifications to provide Phase II E911 service to the PSAP.⁵

The Commission may waive its rules if there is good cause shown and if “special circumstances warrant a deviation from the general rule, and such a deviation will serve the public interest.”⁶ With respect to its Phase II E911 rules, the Commission last year acknowledged that “technology-related issues” or “exceptional circumstances” might in some cases prevent a wireless carrier from meeting the Phase II E911 deployment schedules. The Commission indicated that in such instances, it would consider granting an individual Phase II waiver if the requesting carrier identified the solutions it considered and explained why none could be employed in a way that complies with the Phase II requirements. Requests for Phase II waiver should be “specific, focused, and limited in scope, and with a clear path to full compliance.”⁷ Virtually all of the major nationwide carriers have pending limited waiver requests now on file, and this request is consistent with the relief sought in those requests.⁸

I. Extension of the Handset Deadlines Is Warranted

AWI requests a waiver only to extend the Phase II implementation deadlines and handset milestones contained in Section 20.18(g). AWI does not seek either a waiver

⁴ 47 C.F.R. § 20.18 (g)(1),

⁵ 47 C.F.R. § 20.18(g)(2).

⁶ *Fourth MO&O* at ¶ 43 (citing *Northeast Cellular Telephone Co. v. FCC*, 897 F.2d 1164, 1166 (D.C. Cir. 1990) and *WAIT Radio v. FCC*, 418 F.2d 1153, 1159 (D.C. Cir. 1969).

⁷ *Fourth MO&O* at ¶ 43.

⁸ *E.g.*, Cingular Wireless LLC Petition for Limited Waiver, filed July 6, 2001 (“Cingular Waiver Request”); Verizon Wireless Waiver Request, *supra*.

from the accuracy standards, or a reprieve from the E911 rules for an unlimited period of time. Rather, AWI proposes specific, aggressive implementation deadlines to deploy Phase II E911, as soon as economically feasible for a single-market carrier such as AWI, which cannot acquire handsets directly from a manufacturer. This timetable is based on AWI's best estimates based upon available information, and may be affected by unforeseen events such as shortages in available products or problems that occur in testing or deployment. Nonetheless, it provides a clear path to compliance to reach as many customers as possible, with what it believes is the most accurate technology, in the shortest time frame.

A. A Limited Waiver of Section 20.18(g)(1) Is Justified to Tie Handset Activation Milestones to Handsets' Availability

Section 20.18(g)(1) sets forth "milestone" dates for activation of handsets that are Phase II compliant. Other carriers have filed reports and requests for waiver with the Commission that detail why the milestones are technically and economically infeasible. (*See* n.8, *supra*.) Given the realities of the long process for commercial handset development, testing, manufacture, distribution, and sale, and the negotiation of necessary contracts covering these steps, the rule's handset deployment schedule is unachievable, even for major nationwide carriers such as Sprint PCS, Cingular, AT&T and Verizon Wireless, all of which purchase in large enough quantities to enable them to purchase directly from handset manufacturers. For small carriers such as AWI, that must purchase handsets in the secondary market, it is not even possible to acquire sufficient handsets even on the same timetable as the major carriers, much less on the timetable specified in the rules.

AWI is hoping that although it initially will be at a disadvantage in acquiring handsets, that once the major carriers have made their first batch of purchases, the availability problem will ease somewhat. Therefore, although AWI requests an extension, it is proposing herein to achieve its handset sales benchmarks on the same timetable that Verizon Wireless (the adjacent metro area carrier) is proposing for itself. Specifically, despite these constraints, AWI believes it can achieve the following Phase II-compliant handset penetration benchmarks:

- i) 25% of new activations by July 31, 2002
- ii) 50% of new activations by March 31, 2003
- iii) 100% of new activations by December 31, 2003
- iv) 95% of embedded base by December 31, 2005

For a company the size of AWI, these are aggressive milestones. AWI will do all it can to expedite this process and will seek to beat these milestones if possible. Even under this schedule, many customers will have GPS-capable handsets in the coming year. Given that the network portion of the handset solution will not be available until April 2002 in Lucent-switched markets, these milestones will better coincide with the actual availability of Phase II E911.

B. A Limited Waiver of Section 20.18(g)(2) is Justified to Permit Deployment of the Network Components on a Technically Feasible Schedule.

There are three principal components to AWI's handset-based solution: the network switch and cell site software, Position Determining Equipment ("PDE") server, and handsets. In addition, AWI's network will have to interface with a Mobile Positioning Center ("MPC"). However, these products will not be ready in time to

deploy Phase II by the applicable deadlines. AWI therefore seeks a waiver to deploy Phase II on time schedules that are based on the readiness of each of these products. A key advantage of this approach, beyond rationally tying deployment to technical feasibility, is that it eliminates the need to evaluate the validity of individual PSAP requests, because deployment will proceed without regard to the timing or validity of those requests. AWI expects to complete deployment of these network upgrades by, and seeks an extension of its upgrade deadline until, April 1, 2002.

1. Switch Vendor – Mobile Switching Center (“MSC”)

Section 20.18(g)(2) ties compliance to requests for Phase II from individual PSAPs, requiring carriers to complete work within six months of the request. In retrospect, this has proven to be an unworkable approach. As others have advised the Commission, installing massively complex upgrades to their networks on a schedule almost randomly determined by when individual PSAPs send letters requesting Phase II (or are themselves capable to receive location information) is a recipe for major problems, and those problems have occurred. How and when carriers can become Phase II capable depends in large part on the network technologies and signaling and switching systems that they have deployed in their networks, as well as on the digital technologies (e.g., CDMA, TDMA and GSM) that they have chosen. The rules do not, however, reflect these disparities between carriers’ networks, and instead impose a fragmented approach that is tied to individual requests, rather than to the availability of technically feasible, tested and available solutions.

One of the most critical “gating factors” to the ability of AWI (and any carrier) to deploy Phase II is the availability of the network upgrades that are required to transmit

Phase II ALI. Such upgrades are necessary regardless of the carrier's Phase II technology. The Phase II standard for CDMA carriers, J-STD-036, was not even adopted until mid-2000; only then could the network vendors proceed to develop the upgrades needed. A waiver of Section 20.18(g)(2) is thus warranted to facilitate an efficient deployment schedule, and that schedule should be tied not to the date of an individual PSAP request, but to the schedule set forth herein.

As noted, AWI uses a Lucent switch and infrastructure. The Lucent Phase II feature is based on the IS801 standard. The handset-based Lucent solution is accomplished by upgrading cell sites and switches with software release 17.0. Lucent has begun testing of this feature. Assuming successful completion of those tests, Lucent has indicated it plans to have the necessary software release available by October 1, 2001. On this time schedule, AWI should be able to deploy this feature by April 1, 2002, and will do so regardless of whether it has a valid, pending PSAP request for Phase II. This would enable AWI to deploy without waiting for specific PSAP requests.⁹

2. Position Determining Equipment ("PDE") Vendor

PDE servers are currently being tested by the major carriers. Based on the testing scheduled by Verizon Wireless, deployment could occur in AWI's market by April 1, 2002. This would coincide with the expected completion of the software upgrades to the Lucent switch and cell sites. In short, installation of the PDE component of the handset-based solution requires a deferred Phase II deployment schedule that should allow the work to be completed by April 2002.

⁹ To date, AWI has received only one PSAP request, and has not yet determined its validity. Assuming its validity, deployment would only be required by December 7, 2001 (six months after the request). So AWI's requested extension to April 1, 2002 is less than four months.

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3. Mobile Positioning Center ("MPC") Vendor

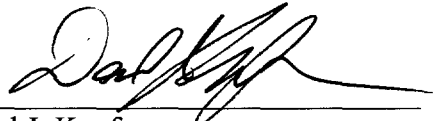
AWI currently has Telecommunication Systems ("TCS"), formerly known as XYPoint, as its MPC vendor. AWI's network employs TCS equipment as its Phase I solution. However, the software release being developed by TCS now for Phase II is different from its Phase I solution. AWI will be able to implement Phase II E911, once the TCS software release designed to implement the ORREQ standard has been completely tested and deployed.

According to Verizon Wireless, TCS has modified and successfully tested its software interface with Lucent using the network-based hardware technology. Verizon Wireless has stated that it will conduct a First Office Application test with TCS in order to allow deployment of the network-assist portion of the Phase II solution in Lucent switching markets by April 2002. Thus, on this independent ground, an April 2002 deadline is appropriate, and any earlier deadline is unachievable.

CONCLUSION

Based on the foregoing, the Commission should grant AWI a waiver of Sections 20.18(g)(1) and (g)(2) of its rules, and permit the implementation of the handset Phase II E911 solution on the schedules set forth herein.

Respectfully submitted,
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